

Remarks

The above-referenced application has been reviewed in light of the Examiner's Office Action dated January 3, 2005. Claims 1-14 and 22-23 have been allowed. The Examiner's indication of allowable subject matter is gratefully acknowledged. Claims 15-17 have been amended. Accordingly, Claims 1-23 are currently pending in this application. No new matter has been added. The Examiner's reconsideration of the rejections is respectfully requested, particularly in light of the above amendments and the following remarks.

In accordance with the Office Action, Claims 15-21 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claims 15-17 have been amended. In particular, "the volume" of Claim 15 has been amended to recite "the image data", "said images" of Claim 16 has been amended to recite "said image data", and "said volume" of Claim 17 has been amended to recite "said volume of interest".

In accordance with the Office Action, Claims 15 and 17-21 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Number 6,690,816 to Aylward et al. Claims 15-17 have been amended.

The '816 patent to Aylward et al. is generally directed to a system for automatically detecting nodules from image data (see, e.g., Aylward at col. 28, lines 58-67). Although Aylward may show a volume projection unit and a volume projection analysis unit, such units lack the features recited in amended Claim 15 of the present application.

Amended Claim 15 recites, *inter alia*, “a volume projection unit in signal communication with the volume of interest generation unit for re-slicing the volume of interest along one of the principal viewing axes, computing volume projection curves of the re-sliced volume along the principal viewing axes and projecting 1-D curves indicative of shape; and a volume projection analysis unit in signal communication with the volume projection unit for analyzing the shapes of the volume projection curves and detecting a nodule in accordance with the analyzed shapes.”

Aylward et al. fail to teach or suggest at least the presently recited features of “a volume projection unit … for re-slicing the volume of interest along one of the principal viewing axes, computing volume projection curves of the re-sliced volume along the principal viewing axes” and “a volume projection analysis unit … for analyzing the shapes of the volume projection curves”.

Therefore, the particular features of amended Claim 15 are neither taught nor suggested by the ‘816 patent to Aylward et al.

In accordance with the Office Action, Claim 16 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Number 6,690,816 to Aylward et al. in view of U.S. Patent Number 6,678,399 to Doi et al. Claim 16 has been amended. In addition, Claim 15, from which Claim 16 depends, has been amended.

As discussed above with respect to Claim 15, Aylward et al. fail to teach or

suggest at least the presently recited features of “a volume projection unit ... for re-slicing the volume of interest along one of the principal viewing axes, computing volume projection curves of the re-sliced volume along the principal viewing axes” and “a volume projection analysis unit ... for analyzing the shapes of the volume projection curves”.

The ‘399 patent to Doi et al. is generally directed towards computed tomography using high-resolution image slices. However, Doi et al. fail to overcome the above-described deficiencies of Aylward et al. In particular, Doi et al. fail to teach or suggest at least the features of “re-slicing the volume of interest along one of the principal viewing axes, computing volume projection curves of the re-sliced volume along the principal viewing axes” and “analyzing the shapes of the volume projection curves”, as recited in amended Claim 15, from which amended Claim 16 depends.

Therefore, amended Claims 15 and 16 are not rendered obvious by the ‘816 patent to Aylward et al. in view of the ‘399 patent to Doi et al., whether taken alone or in combination with any of the other references of record in this case.

Conclusion

Accordingly, it is respectfully submitted that amended independent Claim 15 is in condition for allowance for at least the reasons stated above, Claims 1-14 and 22-23 having been allowed. Since Claims 16-21 each depend from one of the above claims and necessarily include each of the elements and limitations thereof, it is respectfully submitted that these claims are also in condition for allowance for at least the reasons stated, and for reciting additional patentable subject matter. Thus, each of Claims 1-23 is in condition for allowance. All issues raised by the Examiner having been addressed, reconsideration of the rejections and an early and favorable allowance of this case is earnestly solicited.

Respectfully submitted,

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